



MassDEP

Bureau of Resource Protection
Water Management Act Program

Golf Course

Name: _____
Registration No: _____
City/Town: _____

5/5/08

**Seasonal Demand Management Plan
For Registered Water Management Golf Courses**

Golf Courses with irrigation sources registered under the Water Management Act (WMA) are required to implement a drought triggered Seasonal Demand Management Plan (SDMP) by May 1, 2009 that, at a minimum, reduces nonessential outdoor water use* based on the criteria outlined below.

The SDMP must be consistent with the following when a “Drought Advisory” or greater level (i.e., Watch, Warning or Emergency) is declared by the Massachusetts Drought Management Task Force¹ (MDMTF) from May 1st to September 30th:

During a Drought Advisory or greater level, nonessential outdoor water use shall not occur between the hours of 9 am to 5 pm when evapotranspiration rates are highest. Hand-watering of hot spots may occur at anytime as necessary.

During a Drought Advisory or greater level, reductions are required in the irrigation (as applicable) of fairways and roughs consistent with those percentages outlined in Section C of this document.

During a Drought Emergency, should the Governor proclaim a state of Emergency, more stringent water use reductions may be required. At a minimum, all non-essential water use (including fairways and roughs) must cease.

Restrictions shall be based on the drought level for the MDMTF region where the golf course is located. Drought levels may be monitored at: www.mass.gov/dcr/waterSupply/rainfall/drought.htm.

Golf course facility managers shall be responsible for tracking drought declarations and recording when restrictions are implemented.

Complete and return this form by August 1, 2008 to: MassDEP, One Winter Street, 5th Floor, Boston, MA 02108, Attn: Water Management Program

Should you have questions contact Duane LeVangie at (617) 292-5706, or Tom Lamonte, (617) 292-5532.

* “Nonessential outside water use” means uses that are not required: (a) for health or safety reasons; (b) by regulation; (c) for the production of food and fiber; (d) for the maintenance of livestock; or (e) to meet the core functions of a business. Examples of nonessential outdoor water use includes: the irrigation of lawns or landscaping, washing vehicles, parking lots, driveways and/or sidewalks, etc.

Examples of essential water use not subject to restrictions are: irrigation to establish a new lawn during the months of May and September; irrigation for the production of food and fiber or the maintenance of livestock; irrigation by plant nurseries as necessary to maintain stock; irrigation by golf courses as necessary to maintain greens and tees, and limited fairway watering; and irrigation of public parks and recreational fields.

¹ See Massachusetts Drought Management Task Force at www.mass.gov/dcr/waterSupply/rainfall/drought.htm.

Seasonal Demand
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Section A. Golf Course Facility / Water Withdrawal Authorization

Yes No

☐ ☐ 1. Does your golf course have a WMA Permit which requires reductions in irrigation triggered by streamflow and/or drought status?

If Yes, WMA Permit #: _____

☐ ☐ 1a. Does your golf course restrict nonessential outside water use consistent with the WMA Permit?

Section B. Best Management Practices (BMPs)

Check the following BMPs for water conservation and management that you implement.

Yes No

☐ ☐ 1. Water use is 100% metered.

☐ ☐ 2. Source meters are regularly calibrated.

☐ ☐ 3. New and existing irrigation ponds are lined with impervious material.

☐ ☐ 4. Implementation of an irrigation system inspection and maintenance program that includes leak detection and repair, sprinkler head maintenance and replacement.

☐ ☐ 5. Regular inspection of course to determine irrigation needs.

☐ ☐ 6. Implementation of a Turf Management Plan.

☐ ☐ 7. Use of soil sensors and/or soil samples to determine soil moisture content.

☐ ☐ 8. Use of weather stations to program irrigation cycles.

☐ ☐ 9. Use of low trajectory sprinkler heads.

☐ ☐ 10. Elimination of irrigation whenever possible, such as in rough areas.

☐ ☐ 11. Limited ornamental watering.

☐ ☐ 12. Employee training in water conservation and management.

☐ ☐ 13. Utilization of drought tolerant grasses and shrubs.

☐ ☐ 14. Regular aerating of turf to increase the percolation of water into the soil.

☐ ☐ 15. Use of mulch materials in planting beds to improve water-holding capacity.

☐ ☐ 16. Raising turf height during dry weather and drought conditions.

☐ ☐ 17. Reuse of wastewater and/or stormwater for irrigation

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Section C. Seasonal Demand Management Approach for Water Use Reductions

Demand management protocols frequently require more stringent water use reductions as the water supply availability worsens and triggers dictate when different responses are needed. Choose and complete Option 1, 2 or 3.

The tables below reflect two approaches to indicate water use reductions. You may choose to complete the Acres Table or the Time Table to reflect your water use reduction approach, or otherwise describe your specific water use reduction plan. The Acres Table reduces water use by limiting the number of irrigated acres for fairways, roughs, and landscape and ornamentals. Notice the water use acreage percent reduction per unit area. The Time Table reduces irrigation by limiting the amount of timing in irrigation cycles.

Option 1. Acres Table

Mass Drought Levels	Watering Less Irrigated Acreage as Drought Severity Increases							
	Watering allowed up to designated percent							
	Irrigated Tees and greens		Irrigated Fairways		Irrigated Roughs		Irrigated Landscape & Ornamentals	
Action Levels	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres
Normal	100%		100%		100%		100%	
Advisory †	100%	XXX	80%		50%		*	XXX
Watch †	100%	XXX	60%		*	XXX	*	XXX
Warning †	100%	XXX	40%		*	XXX	*	XXX
Emergency **	TBD		TBD		*	XXX	*	XXX

† Nonessential outdoor irrigation use shall not occur between the hours of 9 am and 5 pm, except that hand-watering of hot spots may occur at any time.

* No Irrigation allowed.

** Mitigation actions To Be Determined by the Governor's Emergency Proclamation.

Option 2. Time Table

Massachusetts Drought Levels	Irrigating Less Volume as Drought Severity Increases					
	Reduced Minutes in Irrigation Cycles					
	Irrigated Tees and Greens	Irrigated Fairways		Irrigated Roughs		Irrigated Landscape, Ornamentals
Action Levels						
Normal	Full cycle	Full cycle	min	Full cycle	min	Full Cycle
Advisory †	Full cycle	80%	min	50%	min	*
Watch †	Full cycle	60%	min	*	XXX	*
Warning †	Full cycle	40%	min	*	XXX	*
Emergency **	TBD	TBD		*	XXX	*

† Nonessential outdoor irrigation use shall not occur between the hours of 9 am and 5 pm, except that hand-watering of hot spots may occur at any time.

* No Irrigation allowed.

** Mitigation actions To Be Determined by the Governor's Emergency Proclamation.

Provide any additional description or narrative explanation as warranted on how your golf course plans to implement required irrigation reductions as drought conditions worsen. This could be through such practices as, limited rotation of sprinkler heads, limits on water pressure, limiting irrigation to hot spots, eliminate non-target watering, etc. (Attach additional pages as necessary.)

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Option 3. Alternative Approach

The Department offers flexibility for equivalent irrigation use reductions. Golf courses that have developed an equivalent plan that quantifies real water use reductions by other means and uses the Massachusetts Drought Management Task Force action levels, may submit their plan for the Department's review and approval.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision, that I am authorized to fill out this form, and that the information contained herein is true, accurate, and complete to the best of my knowledge and belief.

Name of certifying person		Title
Phone Number	Fax Number	Web Address
Signature of Certifying Person		Date